(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 14 April 2005 (14.04.2005)

PCT

$(10) \ International \ Publication \ Number \\ WO \ 2005/032862 \ A1$

(51) International Patent Classification⁷: B60G 11/04, 9/02, 11/46

(21) International Application Number:

PCT/US2004/032194

(22) International Filing Date: 1 October 2004 (01.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 60/507,789 1 October 2003 (01.10.2003) US

- (71) Applicant (for all designated States except US): DANA CORPORATION [US/US]; 4500 Dorr Street, Toledo, OH 43615 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): RICHARDSON, Gregory [US/US]; 3322 Putnam, Muskegon, MI 49445 (US).
- (74) Agents: KOLAKOWSKI, William, F. et al.; Dykema Gossett PLLC, 39577 Woodward Avenue, Suite 300, Bloomfield Hills, MI 48304 (US).

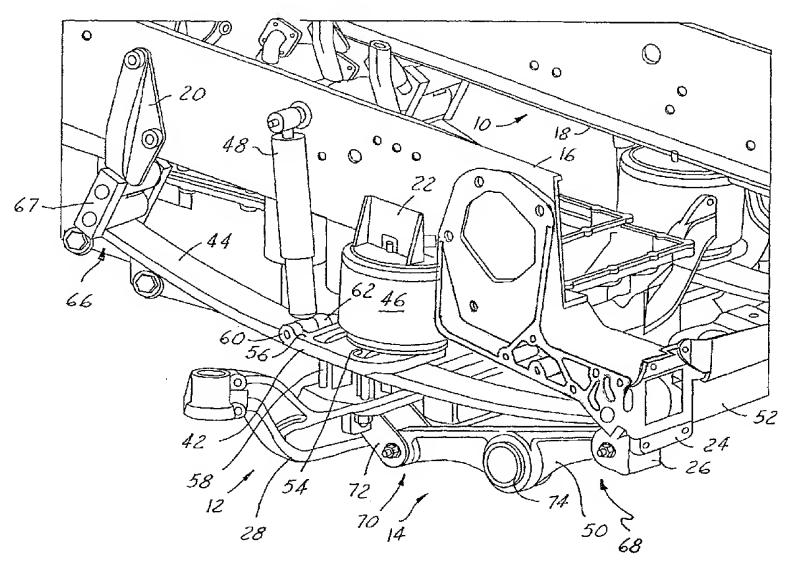
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: STEER AXLE SUSPENSION



(57) Abstract: A suspension (14) for coupling a steer axle assembly (12) to a vehicle frame (10) is provided that provides lateral stability to the steer axle assembly, increased roll stability for the vehicle and a reduction in axle wind-up during brakingçall without interfering with vertical displacement of the axle assembly. The suspension includes leaf springs (44) disposed on opposite sides of the vehicle, each of which is coupled to the vehicle frame at first and second ends (64, 66) and to an axle beam (28) intermediate the first and second ends. The suspension also includes first and second arms (50, 150), each of which is pivotally coupled to the axle beam at a first end (70, 170) and to the vehicle frame at a second end (68, 168) proximate one of the ends of a corresponding leaf spring. The suspension may further include a torsion bar (52) extending between and coupled to the first and second arms.

O 2005/032862